

REMARKS

Upon entry of this amendment, claims 1-3, 5-10, 12 and 13 are all the claims pending in the application. By this amendment, claims 4 and 11 have been canceled, and claims 1, 5, 6, 8, 12 and 13 have been amended. Support for the features added to independent claims 1 and 8 can be found at least at paragraphs [0039] and [0040] of the specification.

I. Claim Rejections under 35 U.S.C. § 102

A. The Examiner has rejected claims 1, 2, 4-9 and 11-13 under 35 U.S.C. § 102(b) as being anticipated by Baldwin, Jr. et al. (U.S. 6,280,563).

Claim 1, as amended, recites the features of a first power supply operable to supply a first power with a first frequency (f1) and a second power supply operable to supply a second power with a second frequency (f2), wherein the second frequency (f2) is less than one tenth of the first frequency (f1). Applicants respectfully submit that Baldwin fails to disclose or suggest at least this feature of amended claim 1.

Baldwin discloses a vacuum plasma processor 10 which includes a vacuum chamber 12 for holding a workpiece 11 therein, a vacuum pump 26, a coil 36, a capacitor 39 connected to the coil 36, an RF excitation source 40 having a frequency of 13.56 MHz, and a DC or RF source 48 (see Fig. 1).

Applicants respectfully submit, however, that while Baldwin discloses the use of a first RF source 40 and a second RF source 48, there is no disclosure or suggestion in Baldwin of a first power supply operable to supply a first power with a first frequency (f1) and a second power supply operable to supply a second power with a second frequency (f2), wherein the second frequency (f2) is less than one tenth of the first frequency (f1), as recited in amended claim 1.

In addition, Applicants note that claim 1 has also been amended to recite that an impedance of the coil or antenna with respect to the first power with the first frequency (f1) is at least two times more than an impedance of a capacitor coupled to the coil or antenna, and that an impedance of the coil or antenna with respect to the second power with the second frequency (f2) is less than one fifth of the impedance of the capacitor coupled to the coil or antenna. Applicants respectfully submit that Baldwin also fails to disclose or suggest these features of amended claim 1.

In particular, as noted above, while Baldwin discloses a first RF source 40, a second RF source 48, a coil 36 and a capacitor 39, Applicants respectfully submit that there is no disclosure or suggestion in Baldwin of having the impedance of the coil 36 with respect to the first power with the first frequency be at least two times more than an impedance of the capacitor 39 coupled to the coil 36, and having the impedance of the coil 36 with respect to the second power with the second frequency be less than one fifth of the impedance of the capacitor 39.

In view of the foregoing, Applicants respectfully submit that Baldwin fails to disclose, suggest or otherwise render obvious at least the above-noted features recited in amended claim 1. Accordingly, Applicants submit that claim 1 is patentable over Baldwin, an indication of which is kindly requested. Claims 2 and 5-7 depend from claim 1 and are therefore considered patentable at least by virtue of their dependency. As noted above, claim 4 has been canceled.

Regarding claim 8, Applicants note that this claim has been amended to recite the same features as discussed above with respect to claim 1. In particular, claim 8 now recites the features of a first power supply operable to supply a first power with a first frequency (f1) and a second power supply operable to supply a second power with a second frequency (f2), wherein the second frequency (f2) is less than one tenth of the first frequency (f1), wherein an impedance

of the coil or antenna with respect to the first power with the first frequency (f1) is at least two times more than an impedance of a capacitor coupled to the coil or antenna, and wherein an impedance of the coil or antenna with respect to the second power with the second frequency (f2) is less than one fifth of the impedance of the capacitor coupled to the coil or antenna.

For at least similar reasons as discussed above with respect to claim 1, Applicants respectfully submit that Baldwin fails to disclose, suggest or otherwise render obvious such features. Accordingly, Applicants submit that claim 8 is patentable over Baldwin, an indication of which is kindly requested. Claims 9, 12 and 13 depend from claim 8 and are therefore considered patentable at least by virtue of their dependency. As noted above, claim 11 has been canceled.

B. The Examiner has rejected claims 1-3 and 7-10 under 35 U.S.C. § 102(e) as being anticipated by Maeda et al. (U.S. 6,624,084).

As discussed above, claims 1 and 8 have been amended to recite features of a first power supply operable to supply a first power with a first frequency (f1) and a second power supply operable to supply a second power with a second frequency (f2), wherein the second frequency (f2) is less than one tenth of the first frequency (f1), wherein an impedance of the coil or antenna with respect to the first power with the first frequency (f1) is at least two times more than an impedance of a capacitor coupled to the coil or antenna, and wherein an impedance of the coil or antenna with respect to the second power with the second frequency (f2) is less than one fifth of the impedance of the capacitor coupled to the coil or antenna. Applicants respectfully submit that Maeda fails to disclose or suggest at least these features of amended claims 1 and 8.

Maeda discloses a plasma processing apparatus that includes a vacuum processing chamber 1 for holding a wafer 3 therein, a plasma source 11, an antenna 7, a gas diffusing plate 8, a dielectric member 9 (see Fig. 3 and col. 8, lines 46-53). Applicants respectfully submit, however, that while Maeda discloses a processing apparatus with the ability to supply power for generating a plasma, Maeda does not disclose or suggest the above-noted features as recited in amended claims 1 and 8.

In view of the foregoing, Applicants respectfully submit that Maeda fails to disclose, suggest or otherwise render obvious all of the features recited in amended claims 1 and 8. Accordingly, Applicants submit that claims 1 and 8 are patentable over Maeda, an indication of which is kindly requested.

Claims 2, 3 and 7 depend from claim 1, and claims 9 and 10 depend from claim 8.

Accordingly, Applicants respectfully submit that these claims are patentable at least by virtue of their dependency.

II. Claim Rejections under 35 U.S.C. § 103(a)

The Examiner has rejected claims 4-6 and 11-13 under 35 U.S.C. § 103(a) as being unpatentable over Maeda et al. in view of Baldwin, Jr. et al.

Claims 5 and 6 depend claim 1, and claims 12 and 13 depend from claim 8. For the reasons discussed above, Applicants respectfully submit that Maeda and Baldwin do not disclose, suggest or otherwise render obvious all of the features recited in amended claims 1 and 8. Accordingly, Applicants respectfully submit that claims 5, 6, 12 and 13 are patentable at least by virtue of their dependency. As noted above, claims 4 and 11 have been canceled.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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